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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,801	03/16/2006	Hideo Sano	3796.P0050US	3963
23474 7590 07/08/2009 FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631				
EXAMINER				
MORILLO, JANEL COMBS				
ART UNIT		PAPER NUMBER		
1793				
MAIL DATE		DELIVERY MODE		
07/08/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,801

Applicant(s)

SANO ET AL.

Examiner

Janelle Morillo

Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-10 is/are pending in the application.
- 4a) Of the above claim(s) 3-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The amendments to the specification filed on April 6, 2009 were entered. The examiner agrees that no new matter was entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-306338A (JP'338).

JP'338 teaches an extruded Al-Cu-Mg-Si alloy with high strength and corrosion resistance (abstract, examples) comprising (in wt%):

0.5-1.5% Si
0.9-1.6% Mg
1.2-2.5% Cu
0.02-0.4% Cr
≤ 0.05% Mn
optionally 0.03-2.0% Zn
balance aluminum (abstract, cl. 2 of JP'338)

which overlaps the presently claimed ranges of Si, Mg, Cu, Cr, Mn, and Zn (cl. 8, 9, 10), and wherein the ranges of Si, Mg, Cu meet the instant inequalities (1), (2), (3), and (4). For instance, the ranges of Si+Mg+Cu taught by JP'338: 0.5% Si+0.9%Mg+1.2% Cu=2.6% (minimum) and 1.5+1.6+2.5=5.6% (maximum), which entirely overlaps the claimed range of 3-4%. For equation (2), JP'338 teaches $Mg \leq 1.7 * Si$, which would be equivalent to $1.7 * 1.5 Si = 2.55$, which is met by

JP'338. For equation (3), $\text{Mg}+\text{Si} \leq 2.7\%$, JP'338 teaches a minimum $\text{Mg}+\text{Si}$ of 1.4%, which meets said limitation. For equation (4), $\text{Cu}/2 \leq \text{Mg} \leq (\text{Cu}/2)+0.6\%$, when $\text{Cu}=1.4$, a corresponding Mg amount for said expression would be $0.7 \leq \text{Mg} \leq 1.3$, which strongly overlaps the range of Mg taught by JP'338, and therefore said limitation is met. JP'338 also teaches examples within the claimed ranges (Table 1, ex. 1 and 2).

JP'338 does not mention the microstructural details of said alloy. However, because JP'338 teaches overlapping alloying ranges, together with high strength and corrosion resistance properties, and processed by extrusion, then substantially the same microstructure (grain size, recrystallization) is expected to result for the product of JP'338 as for the instant invention.

JP'338 does not mention the extrusion parameters for said alloy. However, with regard to the process steps, it is well settled that a product-by-process claim defines a product, and that when the prior art discloses a product substantially the same as that being claimed, differing only in the manner by which it is made, the burden falls to applicant to show that any process steps associated therewith result in a product materially different from that disclosed in the prior art. See MPEP 2113, *In re Brown* (173 USPQ 685) and *In re Fessman* (180 USPQ 524) *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292.

Therefore, because JP'338 teaches examples within the claimed ranges (as well as ranges that overlap the claimed ranges), together with similar processing history, and the same

microstructural features are expected to have occurred for JP'338 as in the instant invention (absent evidence to the contrary, see discussion above), it is held that JP'338 has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," *In re Peterson*, 65 USPQ2d at 1379 (CAFC 2003).

Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product.

Response to Amendment

4. In the response filed on April 6, 2009 applicant amended claims 3 and 5 and added new claims 8-10. The examiner agrees that no new matter has been added.
5. Applicant's argument that the present invention is allowable over the prior art of record because applicant has shown unexpected results has not clearly been found persuasive. Tables 1-4 in the instant specification show criticality of the instantly claimed alloying ranges- i.e. show that alloys with the claimed Mg, Si, Cu, Mn, Cr, Zn, V, Zr ranges together with Si, Mg, and Cu amounts that meet the expressions 1-4 exhibit an improved combination of strength and corrosion resistance compared to alloys outside the claimed alloying ranges and expression conditions. However, the claimed Al-Mg-Si-Cu composition (together with the expression

conditions 1-4) is known, see JP'338 abstract and examples 1 and 2. JP'338 teaches examples within the claimed ranges, though JP'338 does not teach the particular importance of specific processing parameters or an average grain size of ≤ 500 microns.

6. However, though applicant argues "these steps are critical in obtaining the presently claimed invention" (response p 11), applicant has not shown the claimed product by process exhibits unexpected results with respect to the closest prior art alloy taught by JP'338.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 7:30 am- 4:00 pm Mon-Wed.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

/J. M./
Examiner, Art Unit 1793
July 1, 2009